

# Postdoc positions in modelling turbulent combustion & multiphase flow

The computational combustion group, led by Evatt Hawkes, at the University of New South Wales, Sydney, Australia, is seeking outstanding candidates to fill 4 post-doc positions.

The research will involve direct numerical simulations and large-eddy simulations focussing on the interactions of turbulence, chemistry, particles, and/or radiation with applications in low-emissions engines, solar thermal energy receivers, and fires. Post-doc positions are available in the following topics:

1. gasoline compression ignition engine combustion;
2. high-efficiency hydrogen engine combustion;
3. turbulence-radiation-particle interactions in high-flux solar energy receivers; and
4. flame spread over vertical surfaces.

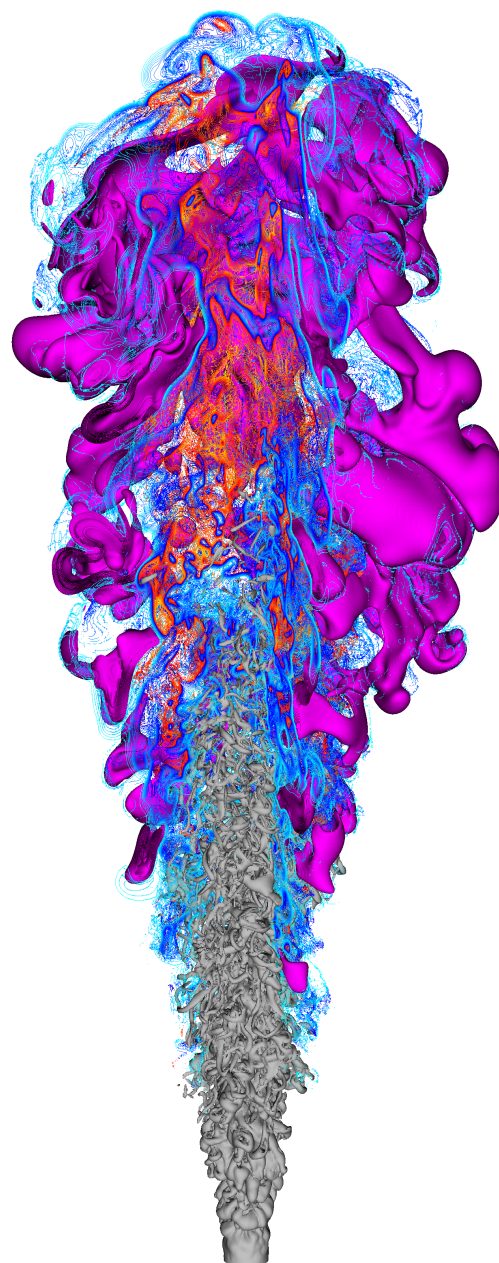
The post-docs will be responsible for development of modelling capabilities, demonstration of these capabilities in a series of test cases using cutting edge supercomputers, and analysis of the test cases to expose the fundamentals of the interactions involved. The post-doc will also be responsible for day-to-day supervision of 2-3 PhD students working on the projects.

Expertise required for this appointment include: an extremely strong understanding of at least one of the areas of turbulent combustion, turbulent multiphase flows, or turbulence-radiation interactions; very strong and demonstrated experience of code development and high performance computing; strong written and oral communication skills; a commitment to excellence and an ambition to succeed in a career in research.

The successful applicant will join a thriving research group working on combustion and some areas of solar energy. There will also be significant interactions with other groups including the Sandia Combustion Research Facility, and with experimental work at UNSW, University of Adelaide, and University of Melbourne.

The appointment will initially be for one year but the projects cover three years of a post-doctoral fellow's salary and the appointment can be extended up to at least three years on a year by year basis, subject to satisfactory progress. The salary for the position will be commensurate with experience and qualifications but is expected to be in the vicinity of AUD 92,000 (USD 68,000). The positions are available immediately if desired, but ideally before the end of 2018. Later starts would also be considered.

Contact: Professor Evatt Hawkes, [evatt.hawkes@unsw.edu.au](mailto:evatt.hawkes@unsw.edu.au)



DNS of an igniting n-dodecane jet recently carried out by the UNSW team.